



Sustainability across the supply chain: Succeeding in a rapidly evolving space

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Syngenta North America

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Classification: PUBLIC

Who we are

A leading agriculture company helping to improve global food security by enabling millions of farmers to make better use of available resources.

- World-class science and innovative crop solutions
 - Seeds
 - Crop protection products
 - Decision tools
- Committed to rescuing land from degradation, enhancing biodiversity and revitalizing rural communities.
- Headquarters in Basel, Switzerland



90
countries



107
production and
supply sites



119
research and
development sites



28,000
employees

Who I am



Sustainability ... defined

Continuous improvement within three focus areas:



Profit

***Economic viability** to ensure management decisions are practical and protect livelihoods with long-term financial stability*



People

*Ensuring **social responsibility** and equity*



Planet

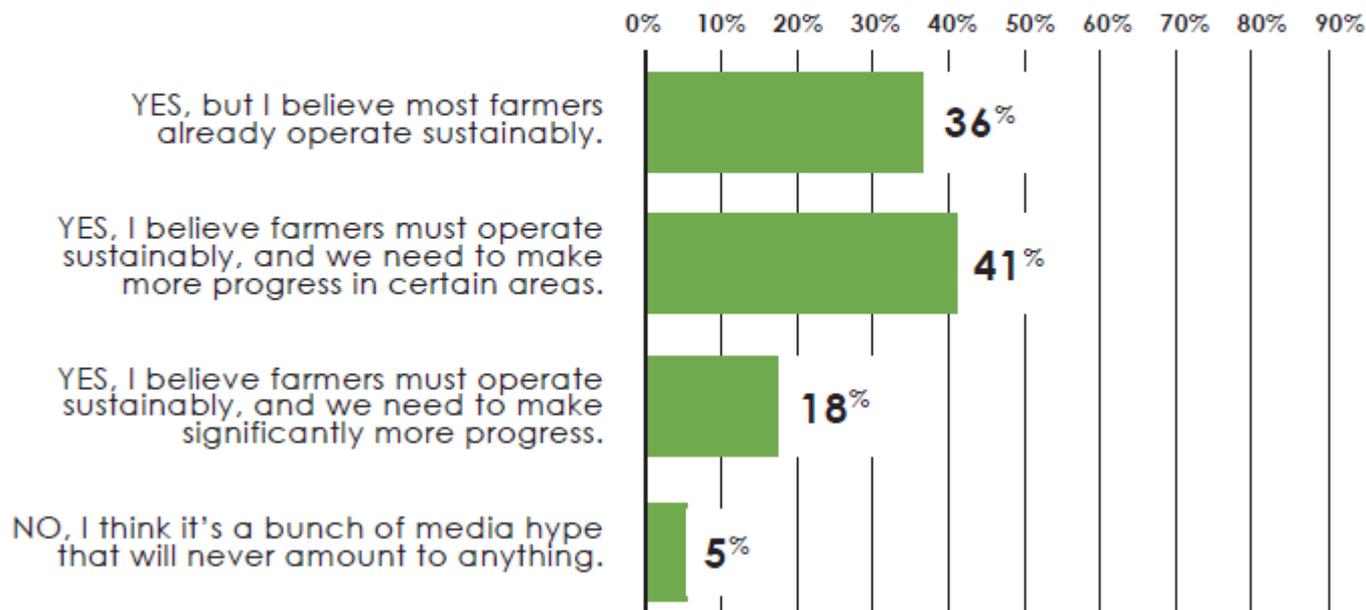
***Environmental stewardship** to safeguard the environment and productivity of the land*

Regenerative Agriculture

Soil health * Biodiversity * Livestock integration * Carbon

Farmers' views of sustainability

► Do you believe sustainable farming practices are essential to the future of agriculture?



Source: Farm Journal Media, 2019

The sustainability discussion: then and now

THEN

Yield

Feeding the planet

Convenience

Least-cost formulation

Consistent product

Big is *progress*



NOW

Resource efficiency/ROI

Healing the planet

Customization

Lifestyle enhancing

Hyper-local product

Big is *bad*

Drivers within the food chain: Activists

“Food retailers must make clear, time-bound commitments to phase out chlorpyrifos, neonicotinoids, glyphosate and other toxic pesticides throughout their entire food supply chains and further expand their organic offerings with a focus on supporting domestic growers.”

Kendra Klein
Friends of the Earth

Aldi supermarkets announce bee protection plan

BY TIM SANDLE | YESTERDAY IN ENVIRONMENT

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Another food retailer has announced a plan to minimize its use of pesticides in a bid to help protect pollinators, at least in the U.S. Aldi is to ‘encourage’ its food suppliers to phase out the use of neonicotinoid pesticides.



The aim of Aldi’s policy is for its providers of fruits, vegetables, and flowers to move away from chlorpyrifos and neonicotinoid pesticides, and to use alternatives that are less toxic to pollinators like bees. This supports an on-going campaign by Friends of the Earth to reduce the global use of pesticides.

Drivers within the food chain: Consumers & food companies

“The research indicated high interest in purchasing sustainably produced wine, a favorable perception of sustainable certification programs and certification logos, and a willingness to pay more for sustainably produced wine, particularly by Millennials and Gen Z.”

New Consumer Research Presented at First U.S. Sustainable Winegrowing Summit Shows Strong Interest in Sustainable Wine

Jun 20, 2019



SAN FRANCISCO — The California Sustainable Winegrowing Alliance (CSWA), with wine and grape association partners from New York, Oregon and Washington, and others around the country hosted the inaugural U.S. Sustainable Winegrowing Summit | West on June 6-7 in Sonoma County. A highlight of the Summit was a presentation by Lulie Halstead, CEO of Wine Intelligence, on consumer perceptions of sustainable winegrowing. The research indicated high interest in purchasing sustainably produced wine in the future, a favorable perception of sustainable certification programs and certification logos, and a willingness to pay more for sustainably produced wine, particularly by Millennials and Gen Z.

Drivers within the food chain: Investors

“No one is coming to us and saying, 'Find me the next cereal bar. They're saying, 'Let's transform the food system. How do we do that?’”

Eric Kessler
Arabella Advisors

Impact investors flock to sustainable agriculture

Lisa Elaine Held

Tuesday, October 24, 2017 - 12:30am



Drivers within the food chain: Risk management

"You cannot have a stable financial system that accounts for classical economic considerations while ignoring climate change, resource depletion, ecosystems destruction and other new and emerging risk."

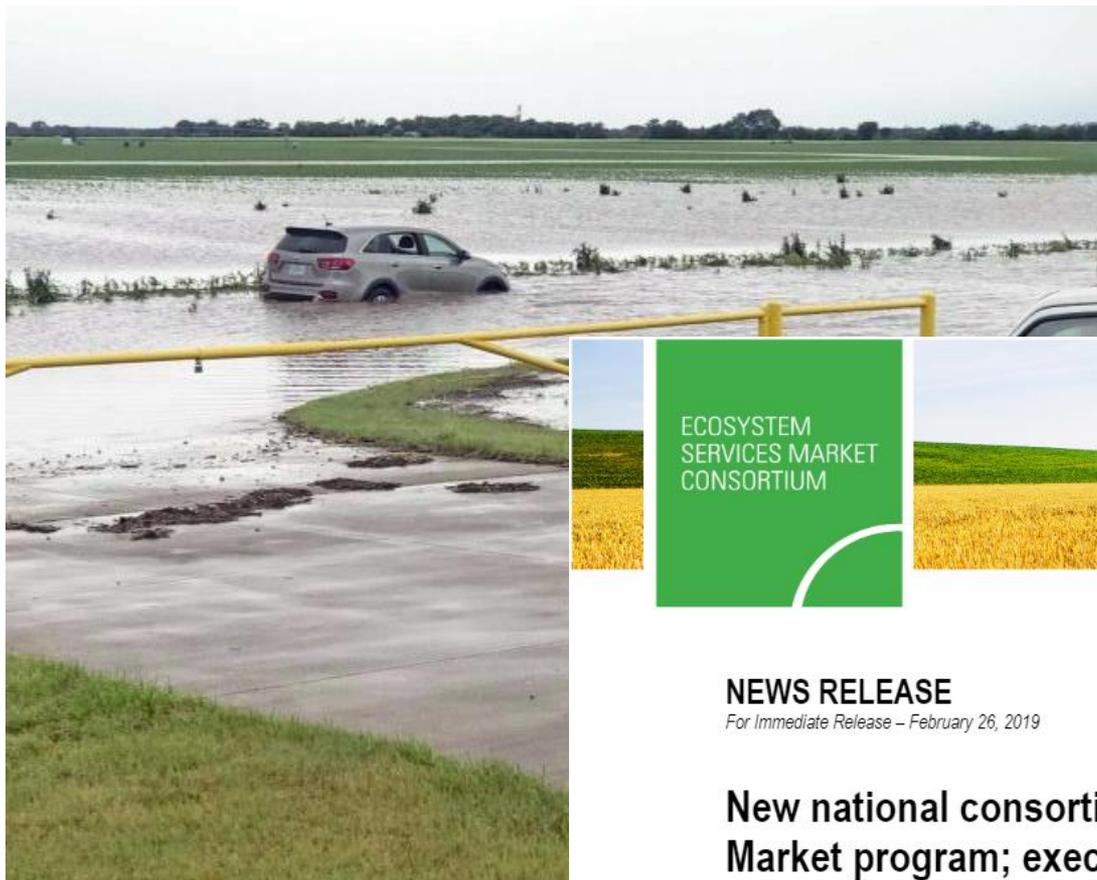
Paul Clements-Hunt

The Blended Capital Group



Major Food Companies to Tackle Water Risks In
Their Global Supply Chains

Drivers within the food chain: Kansas & Nebraska in 2019



NEWS RELEASE

For Immediate Release – February 26, 2019

New national consortium forms from Ecosystem Services Market program; executive director selected

RALEIGH, North Carolina – Today, ten private-sector companies and nonprofit organizations have announced their intent to join together to form the [Ecosystem Services Market Consortium](#) (ESMC).

Change accelerators

- Social media (tribes, transparency)
- Pace of technology adoption
- Climate change/hypoxia zone awareness
- Animal welfare concerns
- Short news cycle
- Venture capital



Sustainability drivers on the farm: Opportunities

- Better data for enhanced decision making
 - Improved profitability
 - Soil health, water management gains
 - Enhanced reporting capabilities
- Potential new markets
 - Consumer demand
 - Same stuff only better
- Potential new investment



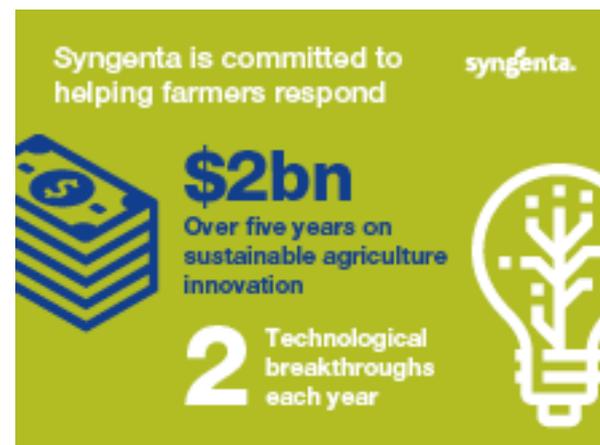
Sustainability drivers on the farm: Threats

- Secondary standards
- Failure to capitalize on new decision tools
- Lack of shared value

Yellow List (Active Ingredient)	Common Trade Names	Type of Pesticide
2,4-D, DIMETHYLAMINE SALT	Savage, Dri-Clean Herbicide, Orchard Star, Solution Water Soluble	Herbicide
ABAMECTIN	Epi-mek 0.15 EC Insecticide/Miticide, Agri-flex Insecticide/Miticide, Zoro Insecticide/Miticide, Abacus V, Obelisk, Timectin 0.15 EC AG Insecticide/Miticide, Willowood Abamectin 0.75C or 0.15EC, Avow, Agri-Mek 5C Insecticide/Miticide, Epi-mek 5CL, Abamex Insecticide/Miticide, Reaooer 0.15 EC, Reaper Advance, Abba	Insecticide
ABAMECTIN	0.15 EC, Abba Ultra Insecticide/Miticide, Abacus Agricultural, Agmectin 0.15EC Insecticide/Miticide	Insecticide
ALUMINUM PHOSPHIDE	Aluminum Phosphide Fumigant Pellets	Insecticide, Vertebrate Control
BUPROFEZIN	Applaud	Insecticide
CHLORPYRIFOS	Lorsban, Govern	Insecticide
CYFLUTHRIN	Tombstone	Insecticide
DIPHACINONE	P.C.Q. Pelleted Rodent Bait	Vertebrate Control
DIURON	Direx 4L, Karmex DF, Parrot DF, Diuron 4L, Drexel Diuron 80 Herbicide, Drexel Diuron 4L Herbicide, Diuron 80 WDG Weed Killer, Diuron 4L Herbicide, Alligar Diuron 80 DF	Herbicide
FENPROPATHRIN	Danitol, Tame	Insecticide
PARAQUAT DICHLORIDE	Bonedry, Firestorm, Gramoxone Drexel Quik-Quat, Parazon 35L, Helmquat 35L, Paraquat Concentrate, Para-Shot 3.0, Willowood Paraquat 35L, Devour	Herbicide
SIMAZINE	Princep, Sim-Trol	Herbicide

Syngenta's role: Innovation for growers & the food chain

- Farm management software systems
 - ROI tracking
 - Easier reporting
 - Sustainability tracking & reporting
- Digital inputs
 - Soil probes
 - Satellite & drone imagery
 - Seed-matching tools
- Accelerating Innovation
 - Collaboration with Nature Conservancy to benefit farmers & nature
 - Sustainable agriculture innovation
 - 50% reduction in carbon footprint by 2030



Sustainable Agriculture Innovation Case Study: Enogen

- What if we could produce ethanol with less energy, greater throughput and less water?
- What if we could produce meat and milk with less land, less labor, less energy, fewer emissions and less water?



The LCA shows that potential environmental savings could be significant

Simply reducing crop production by 5% could yield savings like these¹ per 1000 head:

Savings type	Land Use	Soil Conservation	Energy Use	GHG emissions	Water Use
Estimated savings ²	30 acres	>900 tons	> 257m BTU	> 60k CO ₂ e	> 22m gallons
Equivalent to ...	About 23 regulation football fields ³	About 65 dump truck loads of soil ⁴	Energy to power 7.3 average homes for 1 year ⁵	GHG equivalent to 5.8 passenger vehicles driven for 1 year ⁶	Water to fill 40 Olympic size swimming pools ⁷
					

1) Based on 1000 head of finishing beef and UNL data: Transl. Anim. Sci. Volume 3, Issue 1, January 2019, 504-512 (Exp 2); <https://doi.org/10.1093/tas/txy121> 2) Field to Market: The Alliance for Sustainable Agriculture, 2016. Environmental and Socioeconomic Indicators for Measuring Outcomes of On Farm Agricultural Production in the United States (Third Edition). ISBN: 978-0-692-81902-9, metrics and benchmarks for US irrigated corn 3) 1.32 acres per field 4) 14 ton capacity 5) <https://www.eia.gov/tools/faqs/faq.php?id=97&t> 6) <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator> 7) https://www.fina.org/sites/default/files/2017_2021_facilities_06102017_full_medium.pdf

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Opportunities to get involved

- Kansas, Nebraska, are key focus areas for Syngenta:
 - Beef
 - Dairy
 - Fuel
- Research continues
- Cooperator/collaborator opportunities
 - Food chain & ag retail partners
 - NGOs
 - Growers
- www.syngenta-us.com/corn/enogen-feed



**Improve profit potential
with corn hybrids that
energize your operation.**

Thank you for listening. Questions?

Bringing plant potential to life

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